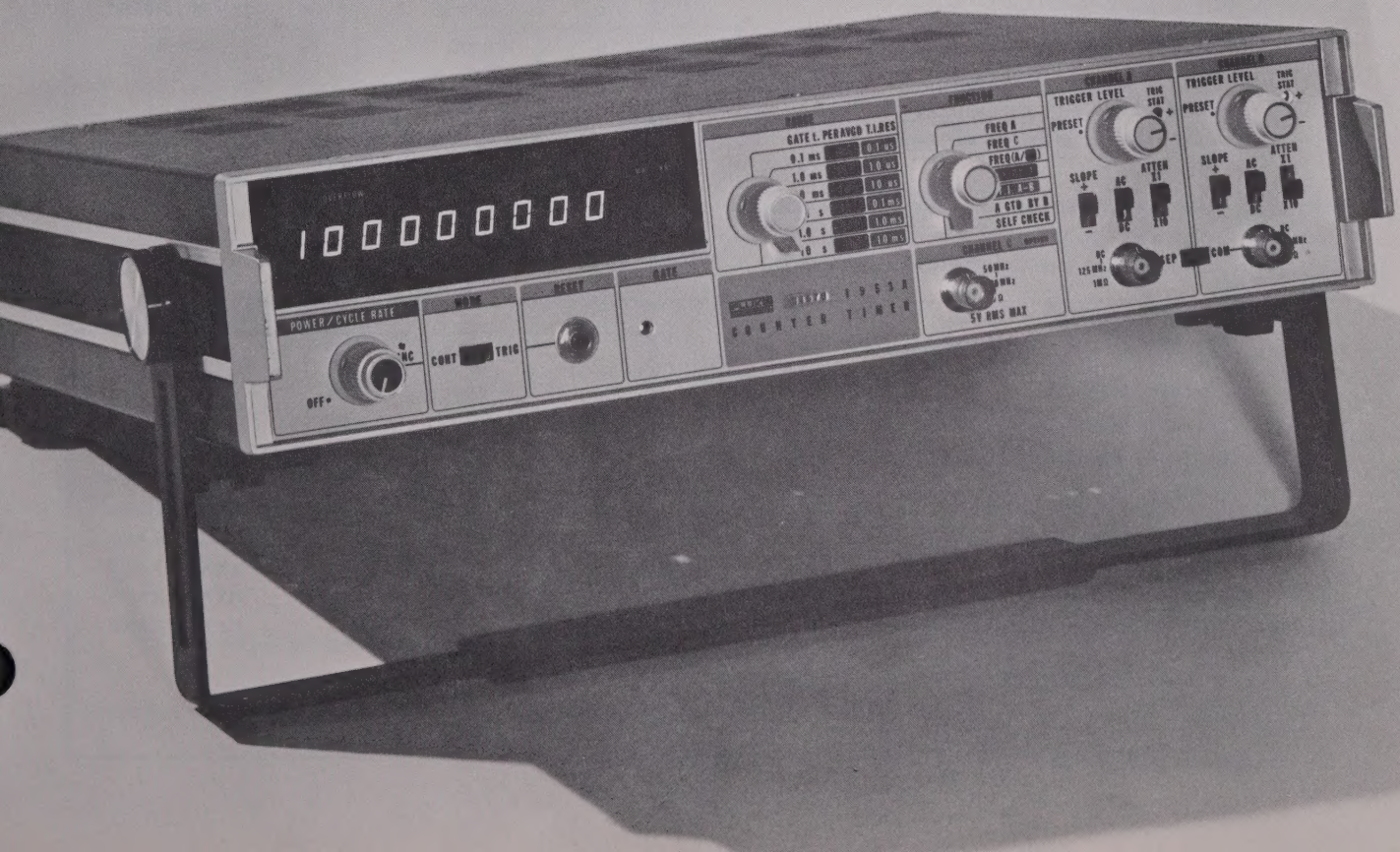
application bulletin

FLUKE

ab-30

PARALLEL DATA OUTPUT OPTION (—02) FOR THE FLUKE MODEL I953A UNIVERSAL COUNTER/TIMER



The Fluke Model 1953A universal counter/timer when equipped with the factory or field installed data output (option –02), may be used in data logging systems which accept parallel bits of information in binary coded decimal format (8-4-2-1).

The data information available from the counter/timer data output unit (D.O.U.) is comprised of the following:

Digits
Overflow
Decimal point
Range
$\overline{\text{D.O.U. READY}}$
Print Command
$\overline{\text{EXTERNAL RESET}}$

The drive capability of all data outpus is 2 TTL loads
Logic 0 = 0V (+0.4V Maximum) 1 sink = 3.2 mA
Logic 1 = +5V (+2.4V Minimum) 1 source = 200 uA
All data outputs except $\overline{\text{DOU READY}}$ and $\overline{\text{EXTERNAL RESET}}$ are Logic 1 (high true).

The DOU connector also provides for an $\overline{\text{EXTERNAL RESET}}$ input at 24. A logic low (ground) signal on this line resets all counter functions except the DOU itself. The $\overline{\text{DOU READY}}$ command is a logic 0, (low true) and signifies that the measurement data is stored in the DOU and ready for transfer. (When connected back to the $\overline{\text{EXTERNAL RESET}}$ input, the $\overline{\text{DOU READY}}$ command causes the 1953A to operate in a continuous mode, and at optimum speed, to drive a printing device.) The PRINT command is a positive (high) true signal of one millisecond duration to activate the printing or data logging device.

The interface kit between the Fluke 1953A-02 counter/timer and the Fluke 2010A digital printer is 2010A-7016. This includes the diode matrix and complete cable.

To fabricate a cable assembly for other applications a 50-pin connector kit is supplied with the data output option. The kit, part number 410241 contains the following items:

Item	Description	Quantity	Fluke Part No.
1	Connector 50 pin	1	407320
2	Connector pins	50	394569
3	Connector Backshell	2	398008
4	Polarizing Key *	1	386169

**Placed between pins 23 and 22.*

It is recommended that the DOU cable length not exceed ten feet to avoid excessive loading of circuitry.

The Data Output Unit is available as a field – installed kit, model 1953A-02K.

In ordering specify part number 396580.

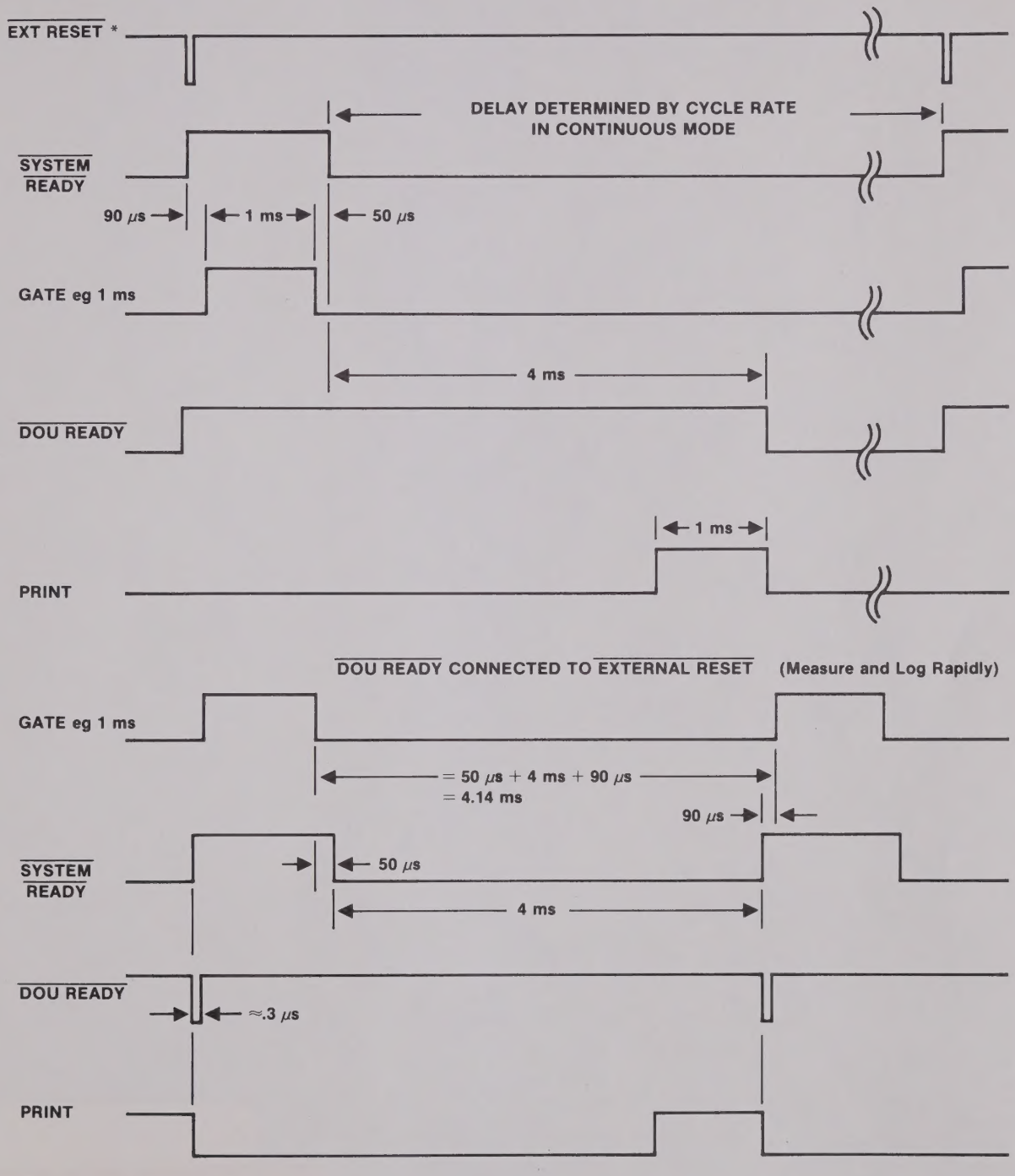
Table 1. DOU Pin Assignments

PIN NO.	FUNCTION	PIN NO.	FUNCTION
A	Decimal point 3	1	Dimensionless*
B	Decimal point 1	2	Decimal point 2
C	MHz units	3	PRINT (1 ms Positive)
D	Milliseconds	4	kHz units
E	Seconds	5	Microseconds
F	MSD - BCD 1	6	MSD - BCD 2
H	MSD - BCD 4	7	MSD - BCD 8
J	8SD - BCD 1	8	8SD - BCD 2
K	8SD - BCD 4	9	8SD - BCD 8
L	7SD - BCD 1	10	7SD - BCD 2
M	7SD - BCD 4	11	7SD - BCD 8
N	6SD - BCD 1	12	6SD - BCD 2
P	6SD - BCD 4	13	6SD - BCD 8
R	5SD - BCD 1	14	5SD - BCD 2
S	5SD - BCD 4	15	5SD - BCD 8
T	4SD - BCD 1	16	4SD - BCD 2
U	4SD - BCD 4	17	4SD - BCD 8
V	3SD - BCD 1	18	3SD - BCD 2
W	3SD - BCD 4	19	3SD - BCD 8
X	2SD - BCD 1	20	2SD - BCD 2
Y	2SD - BCD 4	21	2SD - BCD 8
Z	LSD - BCD 1	22	LSD - BCD 2
a	LSD - BCD 4	23	LSD - BCD 8
b	Overflow	24	$\overline{\text{EXT RESET}}$
c	Ground	25	$\overline{\text{DOU READY}}$

**Goes high in FREQ (A/B), A GTD BY B, and SELF CHECK functions.*

Table 2. Decimal Point Position Coding

PIN A	PIN 2	PIN B	
1	1	1	XXXXXXXXX.
1	1	0	XXXXXXXX.X
1	0	1	XXXXXXX.XX
1	0	0	XXXXXX.XXX
0	1	1	XXXXX.XXXX
0	1	0	XXXX.XXXXX
0	0	1	XXX.XXXXXX



*Counter inhibited when EXT RESET is held low.

Figure 1. Data Output Timing Diagrams

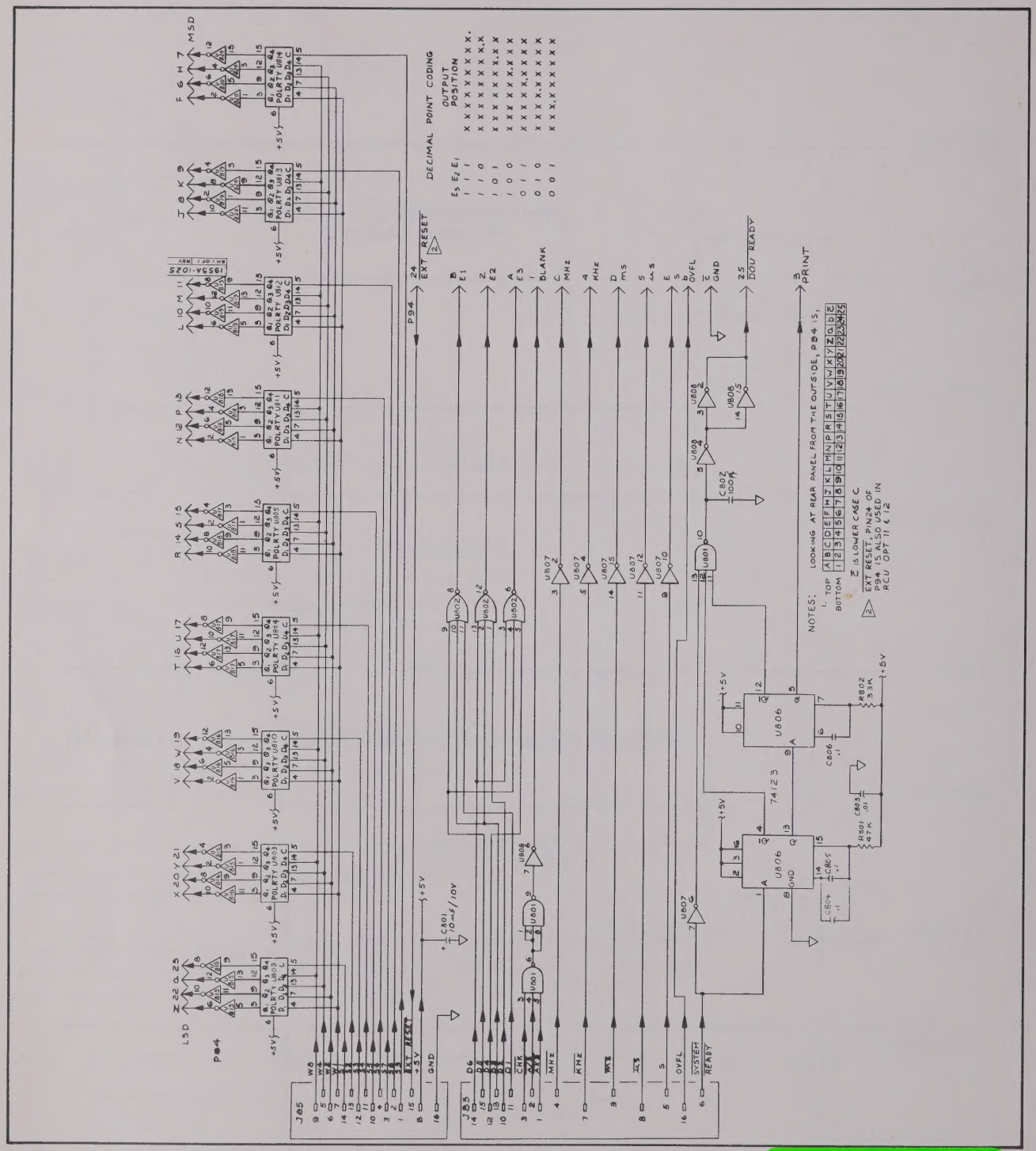


Figure 2. Data Output Unit Schematic (1953A-1025)

MP MASTER
MA35515

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